

**BEFORE THE
PUBLIC SERVICE COMMISSION OF
SOUTH CAROLINA
DOCKET NO. 2012-3-E**

In the Matter of
Annual Review of Base Rates
for Fuel Costs for
Duke Energy Carolinas, LLC

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**DIRECT TESTIMONY OF
MARION ELLIOTT BATSON FOR
DUKE ENERGY CAROLINAS, LLC**

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Marion Elliott Batson, and my business address is 526 South Church
3 Street, Charlotte, North Carolina 28202.

4 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?**

5 A. I am Manager, Coal Supply for Duke Energy Business Services, LLC (“DEBS”).
6 DEBS is a service company subsidiary of Duke Energy Corporation (“Duke
7 Energy”), which provides services to Duke Energy and its subsidiaries, including
8 Duke Energy Carolinas, LLC (“Duke Energy Carolinas” or the “Company”).

9 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
10 **PROFESSIONAL EXPERIENCE.**

11 A. I am a 1985 graduate of the University of South Carolina with a Bachelor of Science
12 in Business Administration. I have been employed with Duke Energy since 1986
13 and have worked in various fossil fuel procurement functions and leadership roles
14 since 1990. I am a member of the North Carolina Coal Institute.

15 **Q. PLEASE DESCRIBE YOUR DUTIES AS MANAGER OF COAL SUPPLY**
16 **FOR DUKE ENERGY CAROLINAS.**

17 A. I am responsible for managing the purchase and delivery of coal that Duke Energy
18 Carolinas and the other Duke Energy regulated subsidiaries use for the generation of
19 electricity.

20 **Q. HAVE YOU TESTIFIED BEFORE THIS COMMISSION IN ANY PRIOR**
21 **PROCEEDINGS?**

22 A. Yes. I have testified in the Company’s annual fuel filings before this Commission
23 for the past several years, including the 2011 fuel filing in Docket No. 2011-3-E.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
2 **PROCEEDING?**

3 A. The purpose of my testimony is to furnish information relating to the Company's
4 fossil fuel purchasing practices and costs for the period of June 1, 2011 through May
5 31, 2012 (the "review period"), and to describe changes forthcoming for the period
6 of October 1, 2012 through September 30, 2013 (the "billing period").

7 **Q. YOUR TESTIMONY INCLUDES TWO EXHIBITS. WERE THESE**
8 **EXHIBITS PREPARED BY YOU OR AT YOUR DIRECTION AND UNDER**
9 **YOUR SUPERVISION?**

10 A. Yes.

11 **Q. PLEASE PROVIDE A DESCRIPTION OF THESE EXHIBITS.**

12 A. The exhibits provide the following information:

13 Batson Exhibit 1 – Fossil Fuel Procurement Practices

14 Batson Exhibit 2 – Fossil Fuel Detail: Purchases, Consumption, and
15 Inventories

16 **Q. CAN YOU PROVIDE A SUMMARY OF DUKE ENERGY CAROLINAS'**
17 **FOSSIL FUEL PROCUREMENT PRACTICES?**

18 A. Yes. The Company continues to follow the same procurement practices it has
19 historically followed, which include establishing appropriate inventory
20 requirements; regular requests for proposals and bid evaluation; balancing long-term
21 contract and spot purchases; staggering contract expirations; pursuing contract
22 extension options; maintaining a well-diversified supplier base; and actively

1 monitoring supplier and railroad performance. A summary of those practices is set
2 out in Batson Exhibit 1.

3 **Q. PLEASE DISCUSS THE COMPANY’S COST OF FOSSIL FUEL FOR THE**
4 **REVIEW PERIOD.**

5 A. A summary of Duke Energy Carolinas’ costs, as well as other statistical information,
6 for each fossil fuel category for the review period is set forth on Batson Exhibit 2.
7 This exhibit includes the quantities purchased and consumed, the weighted average
8 purchase price for each fuel, and the inventory balances beginning and ending the
9 review period. Because several components make up the total cost of coal, coal
10 statistics are broken down to show the average freight-on-board mine cost, the
11 transportation cost, and the delivered cost per million British thermal units.

12 The delivered cost per ton of coal increased approximately 3.5% from an
13 average of \$93.49 for the period of June 2010 to May 2011 (the “prior review
14 period”), to an average of \$96.77 for the review period. The average mine price per
15 ton of coal increased approximately 1.5% from an average of \$67.75 for the prior
16 review period, to an average of \$68.70 for the review period. The average
17 transportation rate per ton of coal increased approximately 9% from an average of
18 \$25.74 for the prior review period, to an average of \$28.07 for the review period.
19 Transportation costs constituted 29% of the Company’s total delivered cost of coal
20 during the review period.

21 The average oil cost for the review period increased 19% to \$3.15 per gallon
22 compared to the prior review period. The increase in oil is due to much higher
23 global and United States (“U.S.”) oil prices during the review period. Oil, natural

1 gas, and biomass product combined accounted for approximately 8% of the
2 Company's total fossil fuel costs during the review period.

3 **Q. WHERE DOES THE COMPANY SOURCE COAL AND WHY?**

4 A. The Company's primary source of coal supply continues to be the Central
5 Appalachia ("CAPP") region. As stated in previous testimony, the design of the
6 Company's Carolinas plants is optimized around CAPP coals, and most of the
7 Company's experience is with those coals. Fuel switching to a different coal basin
8 is difficult because coal quality characteristics vary greatly between coal producing
9 basins. Although the operational and environmental impacts of different coal
10 qualities can be estimated through the Company's engineering models, a complete
11 understanding—and accurate economic assessment—can only be obtained through a
12 properly designed coal test program. Such a test program can often take up to a year
13 at an individual station depending on the station's design and the specific properties
14 of the candidate coal.

15 Due to the challenges facing CAPP mining operations, coal production in
16 this key region is on the decline. As a result of declining supply and price
17 disadvantages compared to other coal regions such as Northern Appalachia
18 ("NAPP") and Illinois Basin, the Company is actively pursuing expanding its
19 volumes of non-CAPP coals. Although only 10% of the Company's total coal
20 supply in 2011 was sourced from non-CAPP sources, as much as 30% of its coal
21 supply could be sourced from non-CAPP sources over 2012 and 2013.

1 **Q. WHAT IS NEEDED TO ALLOW THE COMPANY TO CONSUME NON-**
2 **CAPP COAL?**

3 A. Actual hardware and operational adjustments necessary to burn non-CAPP coal are
4 being evaluated at this time. The Company implemented a test burn program to test
5 different coals at its scrubbed stations. Testing of Illinois Basin coal blends at Allen
6 Station is on-going as plant run time allows. Testing of NAPP coal at Cliffside
7 Station Unit 5 is also on-going as run time allows. Blends of NAPP coal have
8 become the norm during the first half of 2012 at Belews Creek Station. And
9 increasing volumes of NAPP coal have occurred at Marshall Station during the first
10 half of 2012. Information developed through these and other tests will shed light on
11 operational and environmental issues and/or benefits, and allow the Company to
12 determine the lowest cost approach. Continued testing to determine the impacts of
13 burning coal with very different coal quality characteristics combined with
14 additional experience and knowledge shared by legacy Progress Energy, Inc.,
15 ("Progress Energy") personnel through the Duke Energy and Progress Energy
16 merger will help the Company develop longer term procurement and operating
17 strategies to achieve the lowest cost for its customers.

18 **Q. PLEASE DESCRIBE THE LATEST TRENDS IN COAL MARKET**
19 **CONDITIONS.**

20 A. Coal markets continue to be in a state of flux due to a number of factors, including
21 (1) introduction of new U.S. Environmental Protection Agency ("EPA") regulations
22 for power plants that result in utilities retiring or modifying plants, which lower total
23 domestic steam coal demand, and can result in some plants shifting coal sources to

1 different basins; (2) continuing growth in global demand for both steam and
2 metallurgical coal, which makes coal exports increasingly attractive to U.S. coal
3 producers; (3) historically low gas prices combined with installation of new
4 combined cycle generation by utilities, especially in the Southeast, which also
5 lowers overall coal demand; and (4) increasingly stringent safety regulations for
6 mining operations, which result in higher costs and lower productivity. In addition,
7 CAPP mining operations face unique challenges which are resulting in changes in
8 production levels which lead to higher production costs. These include (1) the
9 continuing decline in the quality of coal reserves, which increases the costs of
10 mining; (2) a near moratorium by the EPA on water permits for new mines; (3)
11 significantly better profit margins for metallurgical coals (vs. steam coals), causing a
12 shift in investments for new mines to be focused on metallurgical coals; and (4)
13 continued consolidation in ownership of CAPP coal properties, which has the effect
14 of reducing competition.

15 Published market spot prices for all coal basins have decreased significantly
16 over the last six to nine months. High-sulfur Illinois basin coal prices are trending
17 down from the mid to upper \$40s in the fall of 2011, to the upper \$30s per ton for
18 the remainder of 2012. Similarly, CAPP coal prices have decreased from
19 approximately \$80 per ton in the fall of 2011, to the mid to upper \$50s per ton for
20 the remainder of 2012, and to the mid to upper \$60s per ton for 2013. The biggest
21 drivers for these pricing changes are sharply falling natural gas prices, extremely
22 mild weather during the winter of 2011 and 2012, very high utility coal inventory
23 levels, and recent declines in demand for export coal. According to recent coal

1 industry publications, the national coal burn for December 2011 through February
2 2012 was more than 23% below average. Overall utility inventories increased by as
3 much as 22 million tons in the U.S. (compared to a typical average decrease of 15
4 million tons). According to the same industry publications, coal inventories at U.S.
5 power plants as of the end of February 2012 were more than 45 million tons above
6 normal.

7 Prices of CAPP coal are expected to be relatively stable for the near term.
8 Looking forward, however, the Company sees potential for market volatility as
9 market uncertainties continue and coal suppliers continue to cut production and
10 bring supply into balance with demand. Recent announcements by coal companies
11 such as Alpha Natural Resources, Patriot Coal Company, and Consol Energy have
12 conveyed their respective plans to reduce 2012 production. Another factor that can
13 impact market pricing is the on-going financial viability of coal producers. Patriot
14 Coal Company filed for bankruptcy on July 9, 2012, in light of the tough market and
15 economic conditions facing the company. Current market conditions threaten the
16 existence of many suppliers and could lead to further consolidation of the industry.
17 Finally, continued low natural gas prices will pressure coal generation, especially in
18 the most expensive coal regions like CAPP. All of these events lead to uncertainty
19 of market conditions over the longer term.

20 **Q. HOW DO YOU EXPECT THESE TRENDS TO AFFECT DUKE ENERGY**
21 **CAROLINAS' COAL BURN?**

22 A. Due to increasingly lower power prices and reduced demand for coal generation,
23 coal burn projections for 2012 and forward have been adjusted downward. As an

1 example of the impact, actual coal burn for Duke Energy Carolinas' stations from
2 December 2011 through February 2012 were approximately 43% less than the coal
3 burn over the prior five-year average of the same months. Based on the low actual
4 burns for December 2011 through February 2012, as well as the downward
5 projection for coal burns in 2012 as compared to the amount of coal under contract
6 for delivery in 2012, the Company expects coal inventories to be well above target
7 levels during 2012 and 2013. The Company is evaluating alternatives to help
8 mitigate inventories including (1) negotiating contract shipment deferrals / buy-outs,
9 and (2) coal resell opportunities. Due to lower coal demand, these options would
10 likely be difficult to achieve without paying additional costs to the supplier or
11 incurring sales at a loss.

12 **Q. WHAT IS THE PROJECTED AVERAGE DELIVERED COAL COST FOR**
13 **THE BILLING PERIOD?**

14 A. Combining coal and transportation costs, the Company projects average delivered
15 coal costs of approximately \$103.08 per ton for the October 2012 through
16 September 2013 billing period excluding any fuel savings initiatives being pursued
17 as a result of the Duke Energy and Progress Energy merger. Fuel savings from these
18 initiatives are being passed on to customers through the implementation of the fuel
19 decrement further described in the testimony of Company witness McManeus.
20 Purchasing coal from new coal regions and/or non-traditional sources, increased
21 purchasing power resulting from the Duke Energy and Progress Energy merger that
22 leads to lower commodity prices, and potential coal transportation savings are all
23 examples of initiatives being pursued. This cost, however, is subject to change

1 based on (1) market changes in coal prices for un-purchased coal, if any; (2) changes
2 in oil prices, which impact transportation rates; (3) potential additional costs
3 associated with suppliers' compliance with legal and statutory changes, the effects of
4 which can be passed on through coal contracts; (4) performance of contract
5 deliveries by suppliers and railroads which may not occur despite the Company's
6 strong contract compliance monitoring process; (5) cost of potential contract volume
7 deferrals in light of declining coal burn projections and high coal inventories; and (6)
8 the amount of non-CAPP coal the Company is able to consume.

9 **Q. DO THE COMPANY'S COAL PROCUREMENT PRACTICES**
10 **DESCRIBED IN BATSON EXHIBIT 1 NEED TO CHANGE AS A RESULT**
11 **OF THE CHANGES IN THE COAL MARKETS THAT YOU HAVE**
12 **DISCUSSED?**

13 A. No. The fundamentals of Duke Energy Carolinas' procurement practices are sound.
14 The Company is, and intends to continue, conducting test burns of coals from
15 alternative supply regions at several steam stations over the next few years. This
16 effort, if effective, will add to the diversity of suppliers and coal-producing basins
17 noted in the procurement practices and offset the coal producer consolidation
18 impacts described below.

19 **Q. HOW DOES THE COMPANY INTEND TO MANAGE ITS COAL COSTS**
20 **FOR THE BILLING PERIOD?**

21 A. Duke Energy Carolinas continues to maintain a comprehensive coal procurement
22 strategy that has proven successful over many years in limiting average annual coal
23 price increases and maintaining average coal costs near or well below those seen in

1 the marketplace. Aspects of this procurement strategy include having the
2 appropriate mix of contract and spot purchases, staggering contract expirations so
3 the Company is not faced with price changes for a significant percentage of
4 purchases at any one time, and pursuing contract extension options that provide
5 flexibility to extend terms within some price collar. The Company has developed a
6 well-diversified coal supplier base in the CAPP region, although consolidation
7 among the coal producers is making it increasingly difficult to accomplish this
8 objective.

9 The Company maintains and complies with coal contract target guideline
10 ranges covering four years forward. This structured approach provides a way to
11 manage coal market price risks while providing cost stability and supply reliability.
12 Purchases are competitively bid in accordance with the Company's procurement
13 practices, and actual purchases, if any, will take into account actual and projected
14 coal burns, as well as growing coal inventory levels noted earlier in my testimony.

15 **Q. PLEASE EXPLAIN THE COMPANY'S FUEL INVENTORY POSITIONS.**

16 A. Batson Exhibit 2 shows inventories at the end of the prior review period and at the
17 end of the current review period. Coal inventories increased from 3,533,181 tons as
18 of May 31, 2011, to 5,100,193 tons as of May 31, 2012, which equates to 69 days of
19 full load burn. This significant increase in coal inventory is due to much lower than
20 expected coal generation over the last six to nine months due to extremely mild
21 winter weather and increased natural gas generation. Oil inventories for the review
22 period decreased approximately 21% as compared to the prior review period. Also
23 shown on Exhibit 2 is inventory for biomass wood product for co-firing purposes.

1 **Q. WHAT COSTS FOR LIME PRODUCT ARE INCLUDED IN THE**
2 **COMPANY’S PROPOSED FUEL FACTORS?**

3 A. For the billing period, lime product will be consumed at Marshall, Belews Creek,
4 Cliffside, and Allen Stations. Projected use at each plant varies, but consumption
5 will be approximately 72,225 tons per month. Lime product supply for Marshall,
6 Belews Creek, and Allen has been secured from a central Virginia source under a
7 long-term supply contract that was competitively bid and entered into in 2004. In
8 early 2010, an additional lime product supply contract was competitively bid for
9 deliveries into Cliffside to accommodate completion of Unit 6 and secured from a
10 Kentucky source under a long-term supply contract. Additionally, multi-year rail
11 contracts have been established for all plants to support delivery of lime product. As
12 with coal, the Company also actively monitors vendor and transporter performance
13 for lime product as a cost controlling function. Total lime product expenses are
14 projected to be approximately \$22.5 million for the billing period. Overall, the
15 Company is managing the impacts to all reagents, favorable or unfavorable, as a
16 result of changes to the fuel mix (as I discuss earlier) and/or changes in coal burn (as
17 discussed by Company witness Miller) due to competing fuels.

18 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

19 A. Yes, it does.

Duke Energy Carolinas Fossil Fuel Procurement Practices

Coal

- Near and long-term consumption forecasts are computed based on factors such as: load projections, fleet maintenance and availability schedules, coal quality and cost, environmental permit and emissions considerations, wholesale energy imports and exports.
- Station and system inventory targets are determined and designed to provide: reliability, insulation from short-term market volatility, and sensitivity to evolving coal production and transportation conditions. Inventories are monitored continuously.
- On a continuous basis, existing purchase commitments are compared with consumption and inventory requirements to ascertain additional needs.
- All qualified suppliers are invited to make proposals to satisfy any additional or future contract needs.
- Contracts are awarded based on the lowest evaluated offer, considering factors such as price, quality, transportation, reliability and flexibility.
- Spot market solicitations are conducted on an on-going basis to supplement contract purchases.
- Delivered coal volume and quality are monitored against contract commitments. Coal and freight payments are calculated based on certified scale weights and coal quality analysis meeting ASTM standards. During the test period the Company utilized both destination and origin weights and analysis.

Fuel Oil

- Consumption forecasts are generated by the same system that produces coal estimates. No. 2 diesel is burned for initiation of coal combustion (light-off at steam plants) and in combustion turbines (peaking assets).
- All diesel fuel is moved via pipeline to terminals where it is then loaded on trucks for delivery into the Company's storage tanks. Because oil usage is highly variable, Duke relies on a combination of inventory and reliable suppliers who are responsive and can access multiple terminals. Diesel is replaced on an "as needed basis" as called for by station personnel with guidance from fuel procurement staff.
- Formal solicitation for supply is conducted annually. Contracts are awarded based on the lowest evaluated offer with special value on suppliers' demonstrated ability to move large volumes of fuel with minimal notice.

DUKE ENERGY CAROLINAS
2012 SOUTH CAROLINA ANNUAL FUEL FILING
FOSSIL FUEL DETAIL
JUNE 2011 - MAY 2012

Coal _/1

Tons Burned		11,947,445
Tons Purchased		13,562,062
Avg. Mine Price/Ton	\$	68.70
Avg. Freight Price/Ton	\$	28.07
Avg. Delivered Price/Ton	\$	96.77
Avg. Delivered Price/MBTU	\$	3.95
Inventory as of 5/31/2011		3,533,181
Inventory as of 5/31/2012		5,100,193

Biomass

Tons Burned		18,659
Tons Purchased		19,975
Avg. Delivered Price/Ton	\$	42.64
Inventory as of 5/31/2011		904
Inventory as of 5/31/2012		2,222

Fuel Oil

Gallons Consumed		5,222,673
Gallons Purchased		8,966,135
Avg. Delivered Price/Gal	\$	3.15
Inventory as of 5/31/2011		15,292,040
Inventory as of 5/31/2012		18,513,467

_/1 Coal data excludes terminal activity.